

Appln. No. 10/024,802
Amendment dated September 15, 2003
Reply to Office Action mailed May 14, 2003

REMARKS

Reconsideration is respectfully requested.

Entry of the above amendments is courteously requested in order to place all claims in this application in allowable condition and/or to place the non-allowed claims in better condition for consideration on appeal.

Claims 1 through 25 remain in this application. No claims have been cancelled. No claims have been withdrawn. Claims 26 through 32 have been added.

The Examiner's rejections will be considered in the order of their occurrence in the Office Action.

Paragraph 1 of the Office Action

Claims 5, 10, 12, 17 and 20 have been objected to for the informalities noted in the Office Action.

Claims 5, 10, 17, and 20 have been presented in a manner believed to clarify any informalities in the language.

Withdrawal of the objection to claims 5, 10, 12, 17 and 20 is therefore respectfully requested.

Paragraphs 2 and 3 of the Office Action

Claims 1 through 17 and 19 through 25 have been rejected under 35 U.S.C. §102(b) as being anticipated by Whiteis (U.S. Patent No. 3,108,302).

Claim 1 requires “an elongate deflection gauge capable of determining a minimum diameter of a lumen of a pipe”. The deflection gauge provides a means for measuring a minimum diameter of the lumen of the pipe, which if it is passable through a length of pipe establishes that the wall of the pipe does not exceed the maximum deflection permitted for the particular interior diameter pipe.

The Whiteis reference teaches an “apparatus for removing obstructions from conduits” that includes a body portion 10 and a number of cutter means 20 mounted on the body portion. The cutter means 20 are each embodied by a plate or “flange” that is mounted on the body portion in a plane that is inclined or angled position with respect to the longitudinal axis of the body portion in a somewhat helical orientation.

It is submitted that one of ordinary skill in the art would not find the Whiteis pipe-clearing apparatus to be suitable for or capable of functioning as a deflection gauge that is capable of measuring a minimum diameter of the lumen of a pipe. The inclined flanges of the Whiteis pipe-clearing apparatus does not present a uniform diameter that can be used to determine that the inner diameter of a pipe does not have excessive deflection that reduces the diameter below a desirable lower limit. It is therefore submitted that the Whiteis teaching does not anticipate the invention defined in claim 1.

Additionally, claim 13 requires “wherein the deflection gauge comprises a pair of longitudinally separated end plates and a plurality of skid members extending in a longitudinal direction between the end plates”. Clearly, the Whiteis apparatus does not teach the required relationship in

claim 13 and therefore does not anticipate the invention defined in claim 13.

Also, claim 15 requires "wherein radially outermost surfaces of the skid members defining a calibrated diameter along a circumference of the deflection gauge". The pipe-clearing apparatus of the Whiteis patent lacks radially outermost surfaces that define a calibrated diameter that meets the requirements of claim 15, and therefore Whiteis does not anticipate claim 15.

Claim 16 requires, in part, "a plurality of skid members extending between the end plates, radially outermost surfaces of the skid members defining a calibrated diameter along a circumference of the deflection gauge, the radially outermost surfaces of the skid members extending substantially parallel to each other and substantially parallel to a longitudinal axis of the deflection gauge". Whiteis does not disclose a plurality of skid members that have radially outermost surfaces that extend substantially parallel to each other, and therefore claim 16 is submitted to be patentable over the teaching of Whiteis.

It is therefore submitted that the Whiteis teaching would not lead one of ordinary skill in the art to the applicant's claimed invention as defined in claims 1 and 16, especially with the requirements set forth above, and therefore it is submitted that claim 1 is allowable over the prior art. Further, claims 2 through 15 and 19 through 25, which depend from claim 1, and claim 17 which depends from claim 16, also include the requirements discussed above and therefore are also submitted to be in condition for allowance.

Withdrawal of the §102(b) rejection of claims 1 through 17 and 19 through 25 is therefore respectfully requested.

Paragraphs 4 and 5 of the Office Action

Claim 18 has been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Whiteis in view of Crane et al. (U.S. Patent No. 4,766,631).

Claim 18, particularly as amended, requires "radially outermost surfaces of the skid members defining a calibrated diameter along a circumference of the deflection gauge, the radially outermost surfaces of the skid members extending substantially parallel to each other and substantially parallel to a longitudinal axis of the deflection gauge".

It is submitted that the Whiteis reference would not lead one of ordinary skill in the art to the combination of features of the invention required by claim 18, especially the requirement noted above. Whiteis teaches a plurality of flanges that each lie in a plane that is "inclined relative to the longitudinal axis of the body portion " (see Whiteis at col. 2, lines 12 through 14. Whiteis teaches at col. 1, lines 11 through 14 that the body mean "carries a plurality of outwardly extending cutters provided with sharpened radially extending edges that serve to cut, breakup, and dislodge obstructions from the inner surface of a conduit" (emphasis added).

The Whiteis apparatus relies upon the generally helical configuration of the flanges to either rotate the apparatus as it is pulled through the conduit and the flanges encounter blockage material, or to push the blockage material laterally as the apparatus moves through the conduit if the apparatus does not rotate with respect to the conduit. In either case, the inclined or skewed configuration of the flanges is submitted to be critical to the proper operation of the Whiteis apparatus. If the Whiteis flanges were not inclined, the flanges would simply make grooves through the blockage material and would not necessarily breakup or dislodge the blockage material as that material between the flanges would easily pass between the flanges without being affected by the flanges.

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It is therefore submitted that the prior art, and especially the allegedly obvious combination of Whiteis and Crane set forth in the rejection of the Office Action, would not lead one skilled in the art to the applicant's invention as required by claim 18.

Withdrawal of the §103(a) rejection of claim 18 is therefore respectfully requested.

Added claims

Claim 26 requires "wherein the deflection gauge has longitudinally spaced opposite ends and includes at least one pair of skid members, each of the skid members extending in a longitudinal direction between the ends of the deflection gauge". The Whiteis reference lacks any structure that suggests the required skid members extending in a longitudinal direction. Clearly, the Whiteis flanges are inclined from the longitudinal axis is described in Whiteis in col. 2, lines 12 through 14.

Claim 27 requires "wherein the pair of skid members are oriented substantially parallel to each other". Again, the flanges of Whiteis are inclined and lie in planes that are skewed with respect to each other, and thus would not lead one of ordinary skill in the art to the claimed substantially parallel relationship.

Claim 28 requires "wherein the deflection gauge has a central longitudinal axis extending between longitudinally spaced opposite ends of the deflection gauge, and includes a pair of skid members, each of the skid members extending in a respective plane radiating outwardly from the central longitudinal axis of the deflection gauge". The flanges of Whiteis clearly are not positioned in planes that radiate outwardly from a central axis of the apparatus, and thus claim 28 is submitted to patentably define over the Whiteis reference.

Claim 29 requires "wherein the deflection gauge has longitudinally spaced opposite ends and includes a pair of skid members, the pair of skid members each having a radially outermost surface extending substantially parallel to a longitudinal axis of the deflection gauge". The outer edges of the flanges of the Whiteis apparatus extend in directions that skewed with respect to the longitudinal axis of the apparatus, and thus would not lead one of ordinary skill in the art to the claimed invention.

Claim 30 requires "wherein the radially outermost surfaces of the plurality of skids define a uniform diameter along substantially the entire length of the plurality of skids". The outer edges of the flanges of the Whiteis apparatus clearly vary in diameter, as can be seen in Figure 3 of the drawings of Whiteis, and thus would not lead one of ordinary skill in the art to the requirements of claim 30.

Claim 31 requires "wherein the deflection gauge includes a pair of skid members, each of the skid members forming a loop comprising a pair of end portions and an intermediate portion extending between the end portions". Clearly the flanges of Whiteis do not form loops, and would not lead one of ordinary skill in the art to the requirements of claim 31.

Claim 32 includes may of the requirements discussed above, and is also submitted to be allowable over the cited prior art.


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CONCLUSION

In light of the foregoing amendments and remarks, early reconsideration and allowance of this application are most courteously solicited.

Respectfully submitted,

KAARDAL & ASSOCIATES, PC

By  Date: 9/15/03
Jeffrey A. Proehl (Reg. No. 35,987)
KAARDAL & ASSOCIATES, P.C.
3500 South First Avenue Circle, Suite 250
Sioux Falls, SD 57105-5802
(605)336-9446 FAX (605)336-1931
e-mail patent@kaardal.com